“Over 40 years legacy of success”: that’s how the role of the mainframe in our ICT history can be summarized. Mainframes have been in use from the very start of organizations’ ICT strategies, and they are still very much alive and kicking.1 The continuous advancements in technology have led businesses to consider a mainframe exit. Admittedly, there have been factors such as mainframes’ high cost-optimized and de-risked solutions. It is not surprising then, that the mainframe is still very much alive today, nowadays this label of ‘closed system’ is no longer applicable. The mainframe as a platform, on the other hand, proves to be surprisingly modern and dynamic. The modern mainframe: A reliable and stable foundation for incremental modernization

Mainframes are renowned for their unwavering and relentless reliability. They can process large numbers of simultaneous transactions and are far more error-proof than modern workloads. Mainframes are used to maintain peak performance even when approaching full load capacity. This is the same for many mainframe languages and databases: the skills to maintain these applications are rapidly diminishing. But recently these concerns have been significantly moderated through the introduction of marginal or no charges for modern workloads. For any MIPS-intensive business - with over 15000 MIPs (Millions of Instructions Per Second) - the economies of scale will still be higher when moving on the mainframe platform. Besides, successfully migrating from a mainframe environment to a different platform is much easier said than done! Research indicates that a significantly high number of such attempts face enormous challenges caused by a poorly executed test scenarios, leading to high cost and a long duration of the entire mainframe exit process.2

Mainframe critics also refer to the mainframes inadequacies with respect to vertical vs. horizontal scaling.3 This is an obsolete debate, as this can be addressed via the creation of hundreds of virtual machines (VMs) on a single mainframe logical partition (LPAR), not much different than a private cloud environment.

Remainings

So far, we have focused on the positive aspects of continuation of your mainframe environment. However, there are some aspects inherent to mainframes that may tilt the balance in favor of moving away from this platform. Leading among these issues are skills shortage, technical debt and agility of applications/time to market.

Next, there is more observation that applications on the mainframe have been created many years ago and frequently modified throughout the years. This has resulted in layers of procedural code, assembler and non-optimized application stacks, which are not inherent to mainframes, but rather the result of aging poorly. The technical debt we observe in these applications stems from a tangible amount of bespoke alteration over the years, resulting in dead, duplicate and obsolete code in the applications. Many of these legacy applications were written at a time when modern design principles were not defined. Consequently, the applications’ technical debt also hinders the adoption of the newer business models that customers demand. And the effortcost to apply any incremental change in such heritage applications is high compared to modern turnkey applications.

Finally, there are many customers who have moved part of their business functionality to distributed or cloud environment to meet the requirements for rapid change and better user experience. However, since the ‘core’ system of records runs on the mainframe, they are still facing release timelines of months, if not quarters. Such impact on time to market and agility is unsustainable in the current competitive market where agility and responsiveness are key watch words.4

Summarying, one can say that the problems are predominantly caused by legacy applications’ making it difficult to meet the modern business demands and efficiencies. The mainframe as a platform, on the other hand, proves to be surprisingly modern and dynamic.

What should you do?

While there is no silver bullet that will suit all mainframe customers, each one may adopt an appropriate strategy to get the best from the platform and associated innovation for their application landscape. There are many solutions available within the mainframe platform. The right approach will depend on your portfolio.

Small mainframe estates can consider moving to a mainframe hub, creating economies of scale, and then considering to gradually transform legacy applications towards new platforms. For large mainframe installations, platform owners may also consider moving to mainframe hub getting benefit of economies of scale, while incrementally transforming of mainframe applications, moving them into modern technology stacks such as Java or .Net, while continuing to run on the mainframe platform exploiting the highly resilient cloud system and processing technology utilizing modern frameworks.

Atos offers the full spectrum of solutions for mainframe customers: mainframe hub hosting, mainframe application management, mainframe performance optimizations, modernization, transformation and mainframe migration to the cloud. Our wide range of patented IP accelerators and assets provide faster, better, cost-optimized and de-risked solutions.

1 Why is legacy tech a problem and how do we fix it? https://hernaes.com/2019/03/04/why-is-legacy-tech-problem-and-how-do-we-fix-it/
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6 Why is legacy tech a problem and how do we fix it? https://www.researchgate.net/profile/Nikola_Zlatanov3/publication/298217471_The_data_center_evolution_from_Mainframe_to_Cloud/
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